Backgrounder

SABLE GULLY CONSERVATION STRATEGY

The Sable Gully is a large and deep submarine canyon on the eastern Scotian Shelf, near Sable Island. For a number of years, the ecological characteristics of the area have attracted the attention of a range of government agencies and non-government organizations. The Sable Gully is a distinctive and complex feature on the Scotian Shelf, providing habitat for a wide diversity of species, ranging from corals to shallow and deep water fish and a variety of whales and dolphins.

In July 1997, Fisheries and Oceans Canada (DFO) Maritimes Region initiated development of a *Sable Gully Conservation Strategy* in response to continued ecological interest and issues in the area. The intent of the Conservation Strategy is to identify an overall objective and goals for the conservation of the Sable Gully and to propose management actions which will help guide decisions on future uses and management measures in the area. The Strategy document synthesizes and combines the findings of related studies and the input of the various users and interests in the Sable Gully.

The Sable Gully Conservation Strategy is being developed under the powers provided in the *Oceans Act,* which authorizes to the Minister of Fisheries and Oceans to lead planning initiatives for the management and protection of Canadian marine ecosystems. The Conservation Strategy calls for the Department to explore the best way to conserve and protect a key part of the Sable Gully ecosystem through a pilot Marine Protected Area (MPA). As provided in the Act, DFO will also initiate integrated management planning over the broader Scotian Shelf, including the identification of additional sensitive and ecologically valuable areas.

The DFO Sable Gully Conservation Strategy is divided into three distinct, but interconnected phases:

Phase 1: Science Review: Beginning in July 1997, DFO coordinated a multi-disciplinary scientific review with the objective to: "provide a description of the environment and ecosystem(s) of the Sable Gully and surrounding area and frame this information in the context of greater Scotian Shelf system".

Phase II: Development of the Conservation Strategy: The development of a document, providing a basis for discussion, and describing the conservation objective and proposed management options for the Sable Gully.

Phase III: Implementation of the Sable Gully Conservation Strategy: Following the completion of the Conservation Strategy document, begin work on the recommended management actions.

Previous studies and management decisions regarding the Sable Gully include:

- In 1992, Parks Canada identified the Gully/Sable Island area. as a candidate *National Area of Canadian Significance*
- The Sable Gully was designated by DFO as a *Whale Sanctuary* in 1994 in an effort to reduce ship collisions and noise disturbance with whales.
- Environment Canada (Canadian Wildlife Service) convened a workshop on the Sable Gully in 1994 and released a discussion paper, *Towards a Conservation Strategy for the Gully, near Sable Island, Nova Scotia.*
- The Joint Public Review Panel report for the recently approved Sable Offshore Energy Project (SOEP), provided recommendations concerning the Sable Gully, including requirements for monitoring and further research.
- Sable Offshore Energy Inc. (SOEI) has developed a "Code of Practice"for the Sable Gully in response to the Joint Review Panel findings.
- Canada-Nova Scotia Offshore Petroleum Board class environmental screening procedures for seismic exploration (using air guns and arrays) have identified the Sable Gully as an area of concern, requiring an additional assessment on activities in the area.

The conservation objective identified for the Sable Gully ecosystem:

"conserve and protect the natural biological diversity and integrity of the Sable Gully ecosystem to ensure its long-term health and sustainable use."

This overall objective will require focusing upon and achieving a number of goals, including:

- the protection and conservation of valued and sensitive species and communities, and their habitats;
- to maintain the ecological integrity and physical processes of the Sable Gully;
- to promote better understanding of the Sable Gully ecosystem through research and monitoring of natural processes and the effects of human activities;
- to plan for the "multiple use" of the Sable Gully ecosystem, with activities in the area that meet the objective and goals and of the Conservation Strategy: and,
- to provide a management framework that promotes and facilitates collaboration among agencies, users, and interests in the Sable Gully to help resolve any conflicts and to develop an open and inclusive dialogue.

The Conservation Strategy, and discussions throughout its development, highlighted the need to undertake a broad integrated management and planning process on the Scotian Shelf which would include a system plan for MPAs, and to undertake immediate action to protect a sensitive "core area" within the Sable Gully.

Integrated management does not replace the existing resource or environmental management initiatives or structures, but will ensure all activities and measures affecting the marine ecosystem are managed to conserve the health and function of the system. The planning process will identify and work to fill gaps in information needs, and our current ocean management and planning processes. This will be done by providing a forum and mechanism through which to discuss broad issues, to share perspectives, and to provide recommendations for solutions and undertake the required actions.

Pilot Marine Protected Areas and the Sable Gully

In support of the integrated management planning activities, a "core area"of the Sable Gully ecosystem has been identified as an *Area of Interest* (AOI) under the DFO Marine Protected Areas Program. The Sable Gully is the first area in Atlantic Canada under assessment as a future MPA under Canada's *Oceans Act*. The intent of pursuing MPA designation in the area is to provide long term protection for a key part of the Sable Gully ecosystem, incorporating many of those features and attributes that make the area ecologically significant.

The aim will be to work together with government agencies, resource users, other interests, and the public to ensure the health and diversity of this important part of the ecosystem is conserved. Implementing this proposed action of the Conservation Strategy provides a chance to bring together the key users and interests early on to help understand and refine the recently developed national and regional MPA frameworks. The AOI core area suggested, essentially represents a study area for the pilot MPA Program framework. More in-depth analysis and planning with the proposed multi-stakeholder team will be required prior to formal designation.

DFO is seeking the participation of other government and regulatory agencies in collaborating, with the Department, in the development of the "core area" AOI for the Sable Gully and in broader integrated management activities. DFO will request interim protection measures from these agencies, targeting new activities in the Sable Gully area.

In the long term, DFO has committed to identifying MPAs using a systematic approach, beginning with an ecological overview of marine regions, and involving a wide range of agencies, marine users, and interested parties as part of integrated management activities. Through this approach DFO will develop a comprehensive plan for the identification and selection of MPAs under the *Oceans Act*, and lead the coordination of this plan with other protected area programs in order to define a "system of marine protected areas". On the Scotian Shelf, other Areas of Interest (AOIs) brought forth by the Department in the offshore will be identified in a planning exercise that is both science based and provides an open exchange of views and information.

For More Information: OceansCanada@dfo-mpo.gc.ca

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Fiche d'information

Le 8 décembre 1998

STRATÉGIE DE CONSERVATION DU GOULET DE L'ÎLE DE SABLE

Le goulet de l'île de Sable est un canyon sous-marin large et profond, situé sur la partie est de la plate-forme Scotian, proche de l'île de Sable. Pendant plusieurs années, les caractéristiques écologiques de cette zone ont attiré l'attention de plusieurs agences gouvernementales et d'organismes non gouvernementaux. Le goulet de l'île de Sable est une caractéristique particulière et complexe de la plate-forme Scotian, et sert d'habitat à une grande variété d'organismes marins y compris, les coraux, les poissons pélagiques et semi-pélagiques et de nombreuses espèces de baleines et de dauphins.

En juillet 1997, la région des Maritimes de Pêches et Océans Canada (MPO) a décidé d'élaborer la Stratégie de conservation du goulet de l'île de Sable en réponse à l'intérêt manifesté pour le secteur et aux questions soulevées sur le plan écologique. La Stratégie vise à déterminer un objectif global et des buts précis en ce qui concerne la conservation du goulet de l'île de Sable et à proposer des mesures de gestion qui aideront à orienter les décisions prises quand aux futures utilisations et aux mesures de gestion de ce secteur. La Stratégie résume et regroupe les conclusions d'études semblables déjà réalisées, de même que l'apport des divers usagers et groupes ayant un intérêt pour les ressources du goulet de l'île de Sable.

L'élaboration de la Stratégie de conservation du goulet de l'île de Sable s'inscrit dans les pouvoirs conférés par la *Loi sur les océans* au ministre des Pêches et des Océans pour diriger des plans de gestion et de protection des écosystèmes marins du Canada. Par cette stratégie, le Ministère étudiera les meilleurs moyens à prendre pour conserver et protéger une importante partie de l'écosystème du goulet de l'île de Sable en la désignant zone de protection marine (ZPM), à titre d'essai. Comme le prévoit également la Loi, le MPO mettra au point des plans de gestion intégrée de toute la plate-forme Scotian, notamment en désignant d'autres zones fragiles et zones importantes sur le plan écologique.

La Stratégie de conservation du goulet de l'île de Sable du MPO est répartie en trois phases distinctes mais reliées:

Phase 1-- Examen scientifique: Depuis juillet 1997, le MPO coordonne un examen scientifique multidisciplinaire ayant pour objet de "fournir une description du milieu et du ou des écosystème(s) du goulet de l'île de Sable et du secteur avoisinant et de placer cette information dans le contexte global de l'écosystème de la plate-forme Scotian".

Phase II - Élaboration de la Stratégie de conservation: Préparer un document qui devra faire l'objet de discussions, et qui décrira l'objectif en matière de conservation ainsi que les mesures de gestion proposées pour le goulet de l'île de Sable.

Phase III - Mise en oeuvre de la Stratégie de conservation du goulet de l'île de Sable. Dès l'achèvement de la rédaction de la Stratégie de conservation,

commencer le processus de mise en vigueur des mesures de gestion recommandées.

Voici certaines des études antérieures entreprises sur le goulet de l'île de Sable et des décisions prises en vue de sa gestion:

- En 1992, Parcs Canada a désigné la zone englobant le goulet et l'île de Sable comme zone susceptible de devenir une *aire naturelle d'intérêt canadien*.
- En 1994, le MPO a désigné le goulet de l'île de Sable comme *refuge de baleines* dans un effort pour réduire les collisions entre navires et baleines et diminuer la perturbation des baleines par le bruit.
- En 1994, Environnement Canada (Service canadien de la faune) a organisé un atelier sur le goulet de l'île de Sable et a publié un document de travail intitulé *Vers une Stratégie de conservation du goulet, près de l'île de Sable, en Nouvelle-Écosse.*
- Le rapport du comité mixte d'examen public du Projet énergétique extracôtier Sable (PEES) contient des recommandations concernant le goulet de l'île de Sable, notamment celle d'accroître la surveillance de cette zone et de faire d'autres recherches.
- Sable Offshore Energy Inc. (SOEI) a mis au point un code de bonne pratique pour le goulet de l'île de Sable, en réponse aux conclusions du comité mixte d'examen public.
- Dans son examen environnemental préalable de portée générale lié à la prospection sismique (au moyen de canons à air et de stations complexes), la commission Canada - Nouvelle-Écosse sur le pétrole extracôtier a déterminé que le goulet de l'île de Sable est une zone critique qui exige que l'on évalue davantage les activités qui se déroulent dans le secteur.

Voici l'objectif de conservation pour l'écosystème du goulet de l'île de Sable:

> *"conserver et protéger la diversité biologique naturelle et l'intégrité de l'écosystème du goulet de l'île de Sable afin d'en assurer une utilisation durable et d'en garantir l'intégrité".*

La réalisation de cet objectif global nécessitera la poursuite de plusieurs buts, notamment:

- la protection et la conservation d'espèces et de communautés d'organismes importantes et fragiles, y compris de leur habitat;
- conserver l'intégrité écologique et les processus physiques du goulet de l'île de Sable;
- promouvoir une meilleure compréhension de l'écosystème de l'île de Sable par la recherche et la surveillance des processus naturels et des effets de l'activité humaine;
- prévoir des moyens de gérer les "utilisations multiples" de l'écosystème du goulet de l'île de Sable en choisissant des activités qui répondent à l'objectif et aux buts de la Stratégie de conservation;
- prévoir un cadre de gestion qui favorise la collaboration entre les agences, les usagers et les groupes d'intérêts liés au goulet de l'île de Sable afin d'aider à régler tout conflit et d'amorcer un dialogue franc et ouvert.

La Stratégie de conservation et les discussions qui ont entouré son élaboration ont fait ressortir le besoin d'un processus global de planification et de gestion intégrée de la plate-forme Scotian, qui inclurait un plan systématique de désignation des ZPM, et le besoin de prendre immédiatement des mesures visant à protéger une "zone centrale" fragile, située au coeur du goulet de l'île de Sable.

La gestion intégrée ne remplace ni les mesures ni les structures existantes de gestion des ressources ou de l'environnement, mais elle veille à ce que toutes les activités et toutes les mesures qui touchent l'écosystème marin soient gérées de façon à conserver la santé et la

raison d'être de l'écosystème. La planification permettra de cerner et de combler toute lacune au niveau de l'information et des processus actuels de planification et de gestion des océans. Pour ce faire, on établira une tribune pour discuter des grandes questions, échanger les points de vue, recommander des solutions et amorcer les mesures requises.

Zones de protection marines proposées et le goulet de l'île de Sable

En prévision d'une gestion intégrée, on a proposé de désigner comme *zone d'intérêt* (ZI) une zone centrale du goulet de l'île de Sable en vertu du Programme des zones de protection marines du MPO. Le goulet de l'île de Sable est le premier espace marin de la zone Atlantique canadienne à faire l'objet d'une évaluation comme ZPM possible en vertu de la *Loi sur les océans* du Canada. La raison pour laquelle on veut désigner une importante partie du goulet de l'île de Sable comme ZPM, c'est pour lui assurer une protection à long terme, y compris des caractéristiques et attributs qui lui confèrent son importance écologique.

L'objectif sera de collaborer avec des organismes gouvernementaux, des usagers des ressources, d'autres groupes d'intérêts ainsi que le public afin de protéger la santé et la diversité de cette importante partie de l'écosystème. La mise en oeuvre de cette mesure particulière que préconise la Stratégie de conservation représente l'occasion de regrouper les principaux usagers et groupes d'intérêt dès le début du processus afin qu'ils comprennent et puissent perfectionner les modalités nationales et régionales qui ont été élaborées récemment en vue de la désignation des ZPM. La ZI proposée représente à toutes fins pratiques un exercice pour le programme des ZPM. Il faudra approfondir les analyses avec le groupe de travail multipartite avant d'en arriver à une désignation officielle.

Le MPO sollicite la participation d'autres organismes gouvernementaux et de réglementation en ce qui concerne ce projet de désignation comme ZI d'une zone centrale du goulet de l'île de Sable, et les activités générales de gestion intégrée. Le MPO demandera à ces organismes de mettre en place des mesures de protection provisoires visant les nouvelles activités dans la zone du goulet de l'île de Sable.

À plus long terme, le MPO s'engage à désigner des ZPM selon une démarche systématique, en commençant par un examen écologique des espaces marins, mettant à contribution bon nombre d'organismes, d'usagers des ressources et de groupes d'intérêt, dans le cadre des activités de gestion intégrée. Par cette démarche, le MPO élaborera un plan global pour la désignation et la sélection des ZPM en vertu de la *Loi sur les océans*, et coordonnera l'exécution de ce plan avec d'autres programmes liés aux zones protégées afin de définir un réseau de zones de protection marines. Le MPO a proposé d'autres zones d'intérêt sur la plate-forme Scotian, qui feront l'objet d'un exercice de planification scientifique visant à favoriser l'échange ouvert de points de vue et d'information.

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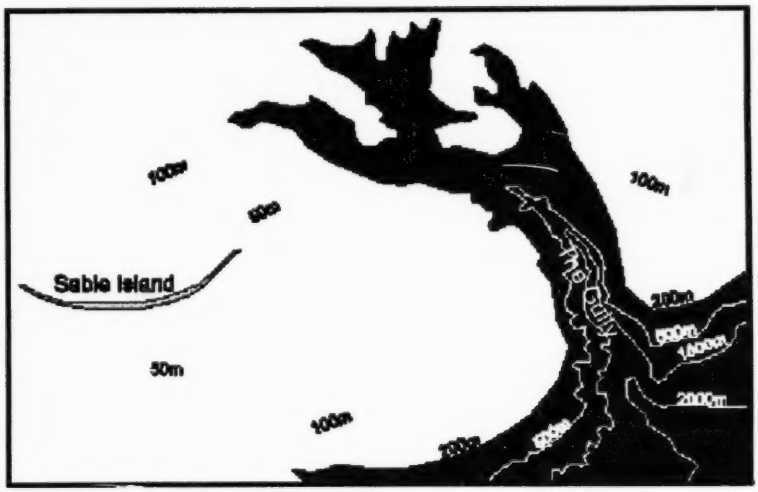
The Sable Gully Conservation Strategy



December 1998

Oceans Act Coordination Office
Maritimes Region
Department of Fisheries and Oceans

Fisheries and Oceans Canada / Pêches et Océans Canada

Canada

1.0 Introduction

The Sable Gully is the largest submarine canyon feature in eastern Canada, located on the eastern Scotian Shelf near Sable Island. For a number of years, the ecological characteristics of the Sable Gully region have attracted the attention of a range of government agencies and non-government organizations. In July 1997, Maritimes Region staff of Fisheries and Oceans Canada (DFO) initiated a *Sable Gully Conservation Strategy* in response to increasing ecological interest in the area.

The objective of this document is to identify a conservation objective and goals for the Sable Gully and to propose management actions which will help guide decisions on the future uses and protection measures in the Sable Gully ecosystem. This document synthesizes and combines the findings of a science review, related studies, and the comments to date of the various users and interests in the Sable Gully. As a single and comprehensive document, it will serve as the primary resource for implementing the Conservation Strategy.

This Strategy document is divided into a number of distinct sections, with each section building upon the preceding. The sections include:

> 2.0 Background and the Development of the Sable Gully Conservation Strategy: This section provides the background and context for the Sable Gully Conservation Strategy, describing previous and current conservation efforts and findings for the region. As well, this section describes the rationale, operating principles, and design of the Conservation Strategy.
>
> 3.0 Valued Ecosystem Components of the Sable Gully: This section attempts to address the question "What do we value in the Sable Gully?" by identifying and describing the important ecological components and uses of the Sable Gully ecosystem.
>
> 4.0 Conservation Objective and Recommended Management Actions: This section identifies the conservation objective and goals for the Sable Gully ecosystem and proposes a management approach to implement the Strategy.

A number of documents and reports used in support of developing the Conservation Strategy are cited throughout this document. Most of these are publicly available. If copies are required, contact the Oceans Act Coordination Office.

2.0 Background and the Development of the *Sable Gully Conservation Strategy*

In recent years there have been a number of studies and management actions surrounding the Sable Gully. The following provides a short description of these efforts and findings, providing both a background and context for the Conservation Strategy. Moreover, these efforts and documents provide a valuable resource upon which to build and ultimately implement management actions.

2.1. Background

- ***Parks Canada***

Canadian Heritage (Parks Canada) identified a large area, encompassing both the Sable Gully and the Sable Island area, as one of three candidate *National Areas of Canadian Significance* (NACS) in a study to identify a National Marine Park on the Scotian Shelf (P. Lane and Associates, 1992). This report provided a review of the natural and cultural features of the Scotian Shelf region, its sub-regions, and provides recommendations on the size and location of each NACS.

The distinguishing natural and historical features of the Sable Gully and Sable Island area in the "offshore banks sub-region", resulted in a high scoring and ranking (2nd) for the area as a marine NACS. No further assessment has been conducted by Parks Canada with regards to the identified NACS sites, however, the agency maintains an interest in ensuring that the ecosystem of these areas are protected (CWS, 1995).

- ***Department of Fisheries and Oceans – The Sable Gully Whale Sanctuary***

The Sable Gully was designated by DFO as a Whale Sanctuary in 1994 in an effort to reduce ship collisions and noise disturbance with whales in the area. The northern bottlenose whale is the primary species of concern behind the development of the Sanctuary. A Notice to Mariners outlining guidelines for vessel activity in the presence of whales has been widely distributed (DFO, 1996). Compliance with these guidelines is voluntary. The Whale Sanctuary boundary and the guidelines for passage through the area are provided in Appendix A.

- ***Environment Canada (Canadian Wildlife Service) "Towards a Gully Conservation Strategy"***

Environment Canada (Canadian Wildlife Service) convened a workshop on the Sable Gully in November, 1994 (CWS, 1994). The workshop was held to provide an opportunity to evaluate what was known about the Sable Gully and to identify where information gaps exist. Relevant federal agencies and researchers from Dalhousie University attended to workshop. The workshop concluded with the following main points:

- the Sable Gully is biologically significant;
- current conservation strategies are inadequate to protect the significant biological resources; and,
- there is a need for an overall conservation strategy for the area.

As a follow up to the workshop a discussion paper, *Towards a Conservation Strategy for the Gully, near Sable Island, Nova Scotia*, was released in June, 1995 (CWS, 1995). The purpose of

the paper was to "identify issues to be addressed and focus discussions on the general requirements for a marine conservation zone in the Sable Gully". The issues and management strategies identified focus primarily on marine mammals and in particular on the northern bottlenose whale. A key management strategy suggested was:

> II - The Department of Fisheries and Oceans and Environment Canada should consider the establishment of a protected marine area pursuant to subsection 4.1(1), of the Canada Wildlife Act around the core area of the bottlenose whales in the Gully (the 12 km x 8 km zone) by extending the current DFO Whale Sanctuary by at least 20 km in all directions, primarily for the protection of marine mammals but also with the objective of identifying and protecting those features of the core zone that make the area critically important;

The discussion paper recognized the lack of information on other biological characteristics of the area and the need for further research. No further discussions or assessments have been conducted by CWS following the workshop and release of the paper.

- ***Offshore Oil and Gas Activities in the Sable Island Area***

The Scotian Shelf, and in particular the Sable Bank region, is an increasingly important area for oil and gas activities, including both development and exploration. The following summarizes these activities in the context of their relationship with the Sable Gully and the regulatory requirements imposed on the area. This general review is included to provide background, with further details on each of these found in the referenced reports.

LASMO Resources

In 1990, a "Tanker Exclusion Zone" for the Sable Gully/Sable Island Area was designated by LASMO Resources which currently operate in the Panuke Cohasset field west of Sable Island. (CWS, 1995).

Sable Offshore Energy Project (SOEP)

The Sable Offshore Energy Project (SOEP) is located to the west of the Sable Gully (approx. 30 km). SOEP is developing six natural gas fields on Sable Bank, with production scheduled to begin in 1999 and extend over 25 years. The Environmental Impact Statement (EIS) for the project, identified the Sable Gully as a 'unique ecological site' and 'valued ecosystem component' (SOEP, 1996). In resulting Joint Public Review Panel hearings for the project, intervenors submitted comments on the Sable Gully in the context of: i) contamination; ii) disturbance of whales; and, iii) impacts on future protection options for the area.

In October, 1997 the Joint Panel released its Final Report on both SOEP, and Maritimes and Northeast Pipeline Project (M&NPP). The Panel concluded that SOEP and M&NPP are: *not likely to have adverse environmental effects, provided that appropriate mitigation measures identified in the course of the review proceedings are applied to both projects and that the Panels recommendations are followed and implemented.*

Regarding the Sable Gully, a number of comments and statements were raised by the Joint Review Panel that in many ways reflect similar concerns of the intervenor. There are three Panel recommendations regarding the Sable Gully:

Recommendation 9

The Panel recommends that the appropriate regulatory authorities ensure that the Proponents undertake the following: design and implement an acoustic monitoring program to measure noise (source) levels of Project activities, transmission losses in the Project area, and received levels in key locations, such as the Sable Gully and nearby Logan Canyon. This should be done by, or under the direction of , an experienced third party, as part of their Environmental Effects Monitoring program planned for the Project.

Recommendation 11

The Panel Recommends that the appropriate regulatory authorities ensure that, at least six months prior to the commencement of any fabrication or construction activity, the Proponents submit the Code of Practice to protect the Sable Gully, as part of their final Environmental Protection Plan. The code should include details on proposed Environmental Effects Monitoring (EEM) programs and mitigation procedures, as they specifically relate to the Sable Gully and be in accordance with the requirements of the appropriate regulatory authority relevant to the activity. To obtain the baseline data necessary for EEM programs, the Proponents should initiate or contribute to basic physical-biological oceanographic research in the Sable Gully.

Recommendation 15

With respect to Environmental Effects Monitoring programs for offshore facilities, the Panel recommends at least six months prior to the commencement of any fabrication or construction activity requiring regulatory approval, in accordance with the requirements of the appropriate regulatory authority relevant to the activity, the Proponents shall submit to those authorities the final Environmental Protection Plan, which shall include or address the following factors:

b) Standards and codes of practice, including the Code of Practice to protect Sable Island and the Sable Gully.

In December, 1997, the Canada Nova Scotia Offshore Petroleum Board (CNSOPB) released the *Benefits Plan Decision Report and Development Plan Decision Report* on SOEP (CNSOPB, 1998a). This document is also the Board's response to the recommendations of the Panel which relate to matters under the Board's jurisdiction.

There is one condition in the report which relates specifically to the Sable Gully and the recommendations of the Joint Review Panel:

Condition 28 The Proponents shall prepare and submit to the Board a Code of Practice, satisfactory to the Board, to protect Sable Island and the Sable Gully. This shall be submitted to the Board in sufficient time to enable a thorough review by the Board and its advisory committees.

In response to the Development Plan Decision Report, Sable Offshore Energy Inc. (SOEI) has developed a Code of Practice for personnel working near the Sable Gully. The intent of the SOEI Code of Practice is to provide clarity to all personnel working with SOEI on aspects of the project interactions with the Sable Gully. SOEI has defined and termed the area an "Aircraft and Vessel Exclusion Area".

To meet obligations in the Development Plan Decision Report, SOEI has submitted an *Offshore Environmental Effects Monitoring Program - Baseline and Drilling Phases* for the Thebaud, Venture, and North Triumph gas fields to the CNSOPB (JEWL, 1998). The EEM Program includes the measurement of environmental attributes that may be affected by the drilling activities and that may result in changes in the receiving environment. Spatial coverage of the EEM Program includes several monitoring stations, with 5 monitoring to be established near the western edge of the Sable Gully. Environmental attributes selected for the EEM include: water quality, suspended particles in the benthic boundary layer, sediment quality, benthic habitat and epifaunal species, fish/shellfish body burden and taint, marine mammals, and marine birds.

Concerning the Sable Gully, the EEM Program will:

- Monitor for the transport of drill platform waste discharges towards the Sable Gully
- Monitor noise effects on cetaceans, particularly in the Sable Gully

Data on noise levels from project activities was collected during the early stages of construction activity in the Spring of 1998, and is currently under analysis. Acoustic modeling is underway to evaluate noise attenuation towards the Sable Gully. In addition, year-round offshore monitoring of marine mammals will be conducted by participants in the Oil and Gas Observer Program on platforms and vessels, *e.g.* identify species, behavior of whales (JEWL, 1998).

Land Parcel #5 Decision

In December, 1997, the Canada-Nova Scotia Offshore Petroleum Board (CNSOPB) issued a call for bids for new exploration licenses in the Sable Island and Sydney Bight areas. One of the eleven parcels of land issued - Parcel 5 - overlapped with the canyon portion of the Sable Gully. In May 1998, the Board announced that it would not accept any bids on Land Parcel 5 near the Sable Gully and would not authorize any exploration in or near the Sable Gully before November, 1998. Future activities in the Sable Gully will be reconsidered in November, 1998, following the release of the Sable Gully Conservation Strategy.

Environmental Assessment of Seismic Exploration on the Scotian Shelf (LGL Report)

In March 1998, the report "Environmental Assessment of Seismic Exploration on the Scotian Shelf" was prepared by LGL Limited for Mobil Oil, Shell Canada Ltd. and Imperial Oil, and was

submitted to the CNSOPB (LGL and Malme, 1998). The document provides a reference document, and a *class assessment* as defined by CNSOPB, examining the likelihood of adverse environmental effects which could occur from seismic exploration using air gun or air gun arrays. Concerning the Sable Gully, the report recommended that an individual Environmental Assessment be required for a seismic program in the Sable Gully, using the Whale Sanctuary and a 10 km buffer to define the area of concern. The distance chosen is based on noise levels from seismic array decrease to threshold sound exposure levels of 150-160 dB at distances of 4.5 to 14.5 km. The distance also accounts for the built-in buffer zones around the core area for the Whale Sanctuary (LGL and Malme, 1998). The Board has taken this recommendation further by not authorizing any activities in the Sable Gully for 1998, including seismic programs (CNSOPB, 1998b).

The Board released class environmental screening procedures for seismic exploration, based in part on the results of the LGL report (CNSOPB, 1998b). Should seismic exploration be permitted in the future in the Gully, an additional assessment would be required with further research initiatives to address the question of effects on the sperm and northern bottlenose whales, and mitigation measures to reduce the likelihood, extent, and severity of effects (CNSOPB, 1998b).

2.2 What is a Conservation Strategy?

The term *conservation* has been described as "a method of environmental management which is guided by a philosophy of interaction with the natural environment in a manner that does not despoil, exhaust, or extinguish" (Jordon, 1995). Meeting conservation objectives and minimizing human impacts on the marine ecosystem is a priority for DFO, highlighted in the Preamble to the recently enacted *Oceans Act*:

Whereas Canada holds that conservation, based on an ecosystem approach, is of fundamental importance to maintaining biological diversity and productivity in the marine environment.

A 'conservation strategy' is essentially an action plan to achieve the desired conservation objectives for a defined geographical area. As the Sable Gully has been an area that many agencies have focused on in recent years, DFO as the leading ocean management agency recognize the need to provide a process in which to discuss the conservation needs and current and future uses of the area. The process provides a forum for participating organizations and individuals to identify what they want to see in the future of the Sable Gully (a vision) and a statement how this can be achieved (objective and strategies). This document will provide direction and guidance for DFO, other agencies, industry, and non-government organizations whose actions will ultimately determine whether this vision will be achieved.

To elaborate, the development of the Conservation Strategy attempts to accomplish the following in its development:

- build upon and update the efforts of CWS and Parks Canada

- incorporate the efforts and recommendations of other regulatory agencies and bodies
- to understand the environmental and ecosystem characteristics of the Sable Gully
- to identify the specific conservation objectives
- to understand the impact of human activities on the Sable Gully ecosystem
- to identify specific management strategies and recommend the next steps in the management process for the Sable Gully area.
- to help articulate the future role of government and non-government participants

The conservation and protection of the Sable Gully ecosystem is the long term goal. This document will help guide management decisions in the short term, establishing principles and priorities, outlining the strategic approach to be taken, and acknowledging that more planning and time will be required to fulfill its goals and objective.

The *Oceans Act* - The Foundation of the Sable Gully Conservation Strategy

The Sable Gully Conservation Strategy is being developed under the powers and direction provided by the *Oceans Act*. Enacted into law in January 1997, Part II of the *Oceans Act* provides the legislative basis for a new approach to oceans management (Appendix B). The *Act* gives clear direction to the Minister of Fisheries and Oceans on the approach to be taken towards the management of activities in or affecting Canadian marine ecosystems, and provides the powers and 'tools' to undertake the task. This approach recognizes that activities within marine ecosystems must be managed collaboratively among all oceans users and interests. The document *Towards Canada's Oceans Strategy* released earlier this year (DFO, 1998), provides a guide by which to begin to apply the objectives of the *Oceans Act*. As Canada's Oceans Strategy will be based on three guiding principles, listed below. Therefore, the Sable Gully Conservation Strategy will follow these principles.

Precautionary Approach: This is defined by the *Oceans Act* as *'erring on the side of caution'*. This concept is still developing and how it is used or applied is a topic for broad discussion. In essence, the precautionary approach recognizes that the effect of our activities on important ecosystems and species is often poorly understood and therefore many of the direct and indirect impacts are often poorly managed. Given the lack of knowledge or information available on many aspects of the marine ecosystem, there are limits to the ability of many resource and environmental management techniques to address all potential impacts. On a practical level, the precautionary approach presents a unique challenge to the decision making process, as it is based on the belief that the lack of information should not be a reason for inaction on important ecological protection and management issues.

In the context of the Sable Gully Conservation Strategy and the results of the Science Review (and other studies) have demonstrated that there are many information gaps in our understanding of the Sable Gully ecosystem and the interactions with human activities. A lack of information is not reason enough to avoid proposing, and ultimately implementing, management actions which conserve and protect the ecosystem health and productivity of the Sable Gully.

Integrated Management: To manage the oceans successfully requires the integration of economic, social, and environmental objectives. The *Oceans Act* calls for the implementation of integrated management plans for the estuaries, coastal, and marine waters of Canada. Integrated management is a shared, continuous, and transparent process which will integrate the planning of all activities and policies affecting Canada's oceans. This involves the active collaboration of DFO with a wide range of government agencies, resource users, and interests with the objective of finding common ground on key issues and recognizing the need to balance the perspectives and values between mutually exclusive activities.

In time, integrated management plans will be developed to cover all of Canada's marine jurisdiction. Although focused on a relatively small area of ocean, the Conservation Strategy is based on the same objectives - collaboration and planning towards effective and ecosystem based management in the ocean. This document is one step towards identifying the important issues surrounding the Sable Gully and for building working relationships, providing a starting point for further discussions and planning.

Sustainable Development: Defined in the Act as *'development that meets the needs of the present without compromising the ability of future generations to meet their own needs'*. DFOs commitment to this principle is further reflected in the recently published document *Sustainable Development - A Framework of Action,* where it is stated "the main business of DFO is sustainable development" (DFO, 1997).

Implementing the Sable Gully Conservation Strategy will continue to provide a forum and process in which to address and integrate conservation and resource use objectives in the area. The challenge for the Conservation Strategy is to identify ways in which to ensure that the Sable Gully is able to maintain both its ecosystem health, function, and biological diversity with important economic activities.

2.3 How is the Sable Gully Conservation Strategy being prepared?

The DFO Sable Gully Conservation Strategy process is divided into three distinct, but interconnected 'phases'. A staged approach is intended with the goal of developing an information base and holding discussions with the interests involved in order to move onto further steps. The following provides a synopsis of each of the phases and activities of the Conservation Strategy, describing both the efforts to date and the next steps.

The Sable Gully Conservation Strategy has involved representatives from key government agencies, fishing organizations, the petroleum industry, researchers, conservation organizations, and various sectors of DFO. The objective of the Sable Gully Conservation Strategy presented at the July 22, 1997 meeting was to:

> *identify and address conservation and management issues of the Sable Gully in an open and transparent planning process.*

The meetings held over the past 14 months have provided an opportunity for DFO to define the general objective of the Conservation Strategy, the expected involvement of various users and interests, and its basic information needs.

Phase 1: Science Review

The basis for any conservation strategy begins with an assessment and evaluation of what is known about the environment and ecology of the area of interest. Therefore, beginning in July 1997, DFO coordinated a thorough scientific review which established the state of knowledge of the Sable Gully ecosystem. More specifically, the objective of the review was to:

provide a description of the environment and ecosystem(s) of the Sable Gully and surrounding area and frame this information in the context of greater Scotian Shelf system.

The Science Review resulted in two documents, *The Gully: A Scientific Review of its Environment and Ecosystem* (Harrison and Fenton, 1998), and a DFO Maritimes Regional Habitat Status Report of the same name (DFO, 1998a).

Thirty-two scientific experts from DFO, federal natural resource departments, universities, and NGOs contributed to the Science Review, which describes what is presently known about the regions geology, oceanography, benthos, fish, seabirds and mammals. The individual reports describe the i) sources of scientific information available on the Sable Gully region; ii) provide an interpretation of the data with regard to general as well as unique or special features, and iii) identify information/data gaps where they exist (Harrison and Fenton, 1998).

A Regional Advisory Process (RAP) was held on February 10th and 11th, 1998, to present and assess the Science Review. The goal of the RAP was to evaluate the findings of the Science Review and answer the following questions:

1. Was the information that the team had available to them analyzed in the most appropriate manner to answer the issue posed to the team?
2. Are the conclusions as presented in the Habitat Status Report valid given the analyses that were presented?
3. What other analyses are appropriate to addressing this issue?
4. What further research is required on this issue?

Proceedings from the RAP are provided in Keizer (1998). One key conclusion from the RAP/Science Review is that it did not provide a complete and integrated "ecosystem" view of the Sable Gully. The connections among the various biological and physical components have only been dealt with on a cursory level. As well, the available information and understanding of the ecological process in the area varies considerably and with the exception of marine mammal studies, the Sable Gully has not been an area of directed research. A more detailed assessment of the information gaps and future research needs is provided in Harrison and Fenton (1998), DFO (1998a), and Keizer (1998).

To date 'values' have not been placed on any of the species, habitats, or ecosystem components identified in the Science Review. Likewise the Science Review process did not address the broader issues of human activity 'impacts' on these components. Given this scope, the purpose of this document is to begin addressing such issues at a general level, using the Science Review as a foundation and as a resource document.

Phase II: Develop the Conservation Strategy

Phase II of the Conservation Strategy, and the development of this document, provides a basis for discussion, describing the conservation objective and proposed management options for the Sable Gully, and attempting to reflect the viewpoints of those who use or have an interest in the area. As a first step, a meeting of representatives of many of the interests in the area was held on June 22, 1998 to explain and define the next steps of the Department. The key components of the *Conservation Strategy* include:

- identifying the ecological and resource use "values" of the Sable Gully
- identifying the current, proposed, or potential activities of the Sable Gully
- defining the specific conservation objective and goals for the Sable Gully
- describing the existing conservation and environmental protection efforts in the Sable Gully
- providing management recommendations to achieve the conservation objective

In the following months, A variety of government agencies, resource users and organizations, and other interests have had an opportunity to review and comment on a draft Conservation Strategy document, through meetings and written submissions.

Socio-Economic Profile of the Sable Gully

A socio-economic study has been contracted by DFO to assist in identifying which user groups, activities and resources will eventually need to be included in implementing the Conservation Strategy. More specifically, the study attempts to identify and evaluate, in greater detail, the existing and potential resources, uses, and activities found within the Sable Gully area. This study will be made available in the late Fall of 1998.

Phase III: Implement Sable Gully Conservation Strategy

Following the development and release of the final Conservation Strategy document, work will begin on fulfilling the identified management actions. As with earlier activities, this will require the active involvement of various users and interests. To facilitate collaboration, DFO will establish "working teams" which will be comprised of representation from key agencies, users and interests in the area (detailed in Section 4.0).

3.0 Valued Ecosystem Components of the Sable Gully

Identifying what is 'valued' is the one of the most significant steps in developing any conservation strategy, helping to focus attention on issues, concerns, and topics of importance for the ecosystem and the users and interests in the area. In essence, we have to begin to address the question: W*hat do we value in the Sable Gully*?

For the purposes of the current exercise, valued ecosystem components (VECs) primarily include those characteristics or features of the Sable Gully ecosystem which have been identified as having ecological significance within the context of the Scotian Shelf, as well as within the Sable Gully. The ecological components that have economic and/or social value, *i.e.* the fisheries, are also included at a general level in the discussion below. These values will be detailed further in the upcoming Socio-economic Profile document (described in Section 2).

Any VECs chosen are ultimately based on human perceptions and values, however, the Science Review and the resulting Habitat Status Report (HSR) can provide a foundation for developing the VECs, as they describe the regional geology, oceanography, fisheries, and higher trophic level fauna (seabirds and marine mammals) of the area. In addition, a number of other studies for the area (as described in Section 2.0), such as CWS (1995); SOEP (1996); and LGL and Malme (1998), provide a further guide as to the VECs of the area. In addition, during the development of this document a number of agencies, resource users, and interested groups have provided, to the Department, their views as to the important ecosystem components.

The VECs suggested include:

- cetaceans and their habitats
- fish communities/fisheries and their habitats
- benthic environment
- physical processes

Our understanding of the Sable Gully ecosystem and its VECs is incomplete and a variety of information and data gaps of this ecosystem have been identified (Harrison and Fenton, 1998 and DFO, 1998a). Moreover, an integrated ecosystem description of the area is not possible at this time. Given these considerations the VECs identified should be viewed as a 'working list', and revised based on further research and discussions, *e.g.* additional data and analysis of seabird concentrations could further help identify the importance of the Sable Gully.

The Sable Gully Ecosystem

Valentine, *et al.* (1980) describe submarine canyons as "discrete habitats on the continental margin", distinguishing their ecological characteristics from surrounding areas. The Science Review presented a conceptual view of the Sable Gully ecosystem (see Figure 1 below), based in part on studies from other canyons, demonstrating the complex and dynamic inter-linkages between the biological communities and their environment. Using this conceptual model together with the information provided in the Science Review, the Sable Gully 'ecosystem' would likely

extend from 'trough' area onto the inner shelf, would encompass parts of the adjacent banks, and would extend through the canyon onto the deep continental slope and abyssal plain.

Given these complex interactions, each component of the Sable Gully ecosystem is 'valuable' at some level of analysis, reflected in the following general statement from the Science Review:

> *It is not unreasonable to conclude that the diversity of marine species in the Sable Gully can be explained by the complex interactions: 1) an enhanced food supply mediated by processes that favour localized production and its retention there; and 2) a diversity of habitats, providing both substrate and shelter to support a complex array of biotic communities within a geographically confined region.*

In the Science Review, Milewski (1998) and Davis (1998) both describe the Sable Gully ecosystem in the context of marine classification approaches. These methodologies attempt to describe marine ecosystems in terms of biophysical relationships and interactions. Based on these approaches, the Sable Gully region appears to possess a number of 'marine representative units' (Milewski, 1998) and 'submarine landscapes' (Davis, 1998), given its position on the continental shelf between shallow offshore banks and deeper continental slope waters.

Valued Ecosystem Components (VEC)

The following provides a short description of each proposed VEC, with further details provided in the Science Review or documents cited. A proposed 'conservation target' for each VEC is also provided to generate discussion: Interactions between these VECs and human activities is explored in Section 4.3.

Physical Processes

Physical processes (circulation, tides, mixing, sediment transport) serve an important ecosystem function in the Sable Gully for each level of ecological organization (see diagram below). Petrie *et. al.*, (1998) in the Science Review suggest that based on the available information currents and patterns of circulation may play an important role in the Sable Gully ecosystem in two principle ways:

1) in the local retention of particles
2) in the larger scale transport materials onto and off the shelf.

Other relevant observations concerning physical processes made in the Science Review that may have important ecological functions or is relevant for the Conservation Strategy include:

- The Sable Gully may feature a weak counterclockwise circulation, similar to other gyres on the Scotian Shelf.
- Internal wave activity at the mouth of the Sable Gully may be enhanced which could lead to greater vertical mixing with implications for nutrient exchange and

productivity, however based on available data, nutrient distributions and biological productivity appear similar to adjacent areas.

- Calculations based on current meter data and source water nutrient concentrations indicate that nutrient transport through the Gully could make a significant contribution to the eastern Scotian Shelf during summer
- Based on the available data on surrounding regions it is anticipated that the Sable Gully has low contamination levels.
- Recent studies indicate that the four small feeder canyons on the eastern Sable Bank which may have active sediment transport into the main canyon (Fader *et. al*, 1998). This may have important implications for benthic communities and their habitats.

Conservation Target

- ❖ Maintain the current environmental quality of the Sable Gully.

- ❖ Prevent alterations to physical processes from human activities (*e.g.* increases in sediment load) in the Sable Gully.

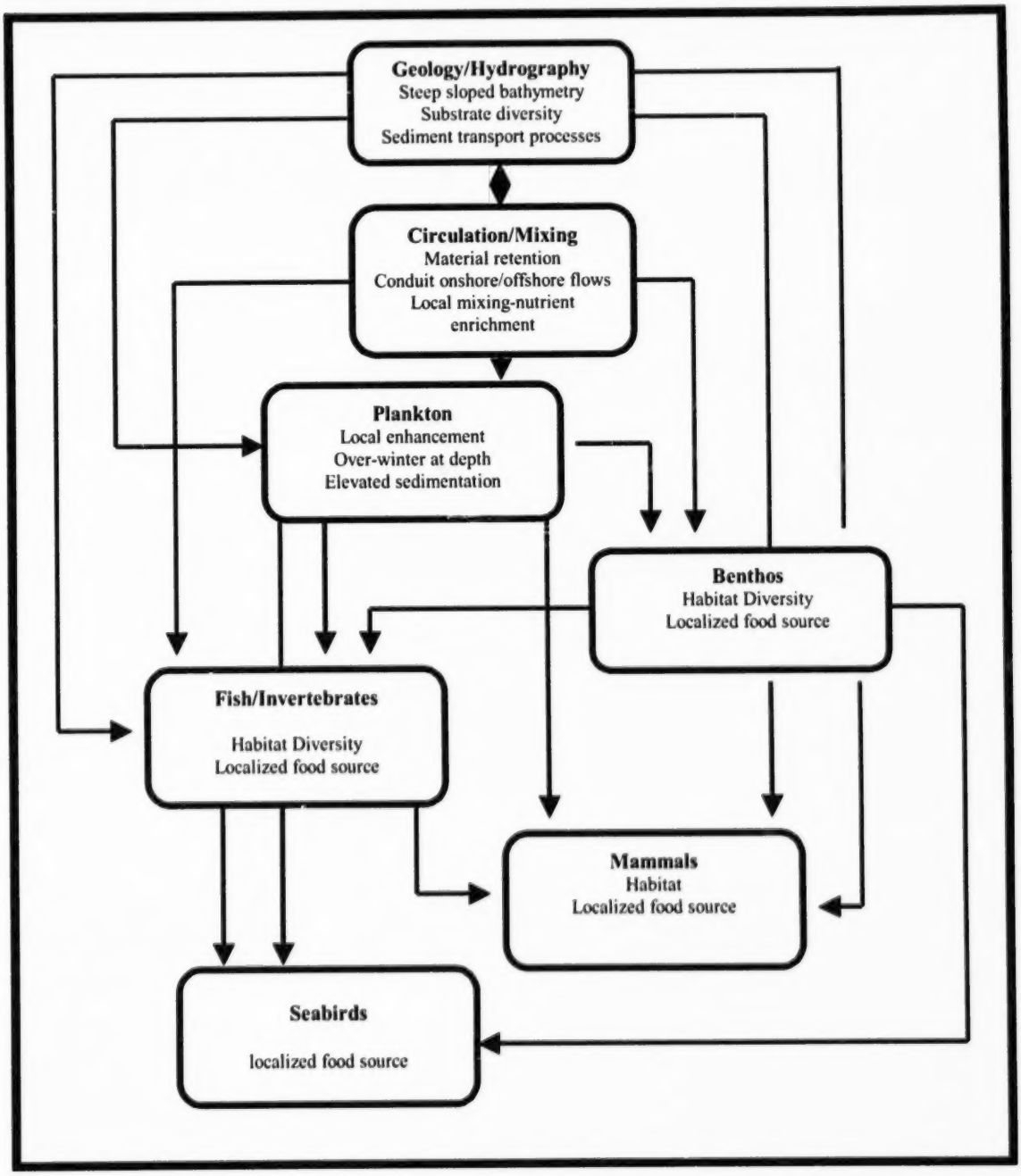


Figure 1: Conceptual view of the Sable Gully ecosystem

Benthic Environment

The benthic environment and communities of the Sable Gully is perhaps the least known of all the ecosystem components. Nevertheless, based on studies in similar canyon environments, the Sable Gully seems have diverse and abundant benthic life, reflected in the Science Review (Harrison and Fenton, 1998):

> *...the diversity of species and their abundance is generally significantly greater in submarine canyons, such as the Sable Gully, than adjacent slope waters...*

The diversity of habitat types and benthic assemblages in part relates to the variety of depth zones and substrate composition (bedrock, sands, and gravels) found documented within a relatively small geographical area of the canyon portion and the adjacent shallow shelf environments. In order to more accurately predict community types in the area, additional factors and variables that influence the benthic composition, distribution, and productivity will need to be considered.

Studies on Gorgonacea (horny) and stony corals, suggest that the Sable Gully may provide an important habitat for half of the known species in Nova Scotia waters, representing one of two areas of suspected concentration on the Scotian Shelf (Breeze and Davis, 1998). The Science Review made the following comment: *corals are recognized as an important part of the benthic biota of the Sable Gully, providing habitat for a variety of additional species.* The full distribution of horny corals or "trees" in the Sable Gully area and their overall importance in this ecosystem is currently unknown. The horny corals are suspected to be found in depths below approximately 350 meters. Breeze and Davis (1998) through interviews with fisherman identified "Hells Kitchen" as a known area of horny coral concentration in the Sable Gully.

Conservation target:

- To prevent harmful physical, chemical, and biological disturbance to benthic communities.

Cetaceans and their habitats

Cetaceans have been the focus of extensive research in the Sable Gully region. The marine mammals chapter of the Science Review (Whitehead *et. al.*, 1998) concluded with the following observations concerning the Sable Gully:

> *The available evidence strongly suggests that the Gully/Sable Island area is the most important habitat for both cetaceans and pinnipeds on the Scotian Shelf. For cetaceans, the deep canyon and northern basin of the Gully (>200m in depth) is the most important habitat.*
>
> *The Sable Gully area is notable for:*

1) a high diversity of cetaceans (8-13 common species),
2) a high density of cetaceans in the Sable Gully canyon, and
3) whale densities are higher in the Sable Gully than elsewhere on the edge of the Scotian Shelf.

The earlier CWS Discussion Paper (CWS, 1995) supports this finding making the following observation: "the diversity and density of marine mammals occurring in the area indicate that it is one of the most important habitats on the east coast of Canada, and possibly of global significance". These observations and conclusions should be viewed in the light of the lack of comparable data for other areas of the Scotian Shelf (Whitehead *et. al.*, 1998).

Species of *significance in the Canadian context* for the Sable Gully include: the northern bottlenose whale, the sperm whale, striped dolphins, and Short-beaked common dolphins (Whitehead *et al.*, 1998). The Sable Gully is considered an *important habitat* for other species on the Scotian Shelf including the fin whale, humpback whale, and the Atlantic white-sided dolphin. Given the evidence that the Sable Gully serves as an important habitat for the above listed species they are included as VECs. Other common species in the area include the pilot whale and the minke whale.

The Science Review provides the current status, spatial, and temporal use of these species and others identified in the Sable Gully region. Each species uses the Sable Gully in a different way based on a number of biological and physical oceanographic factors, with distributions principally determined by prey abundance, temperature, and underwater topography. Considering the habitat needs and known distributions of these species in the Sable Gully, waters deeper than 200m have been identified as areas of importance to most cetaceans in the Sable Gully (Whitehead *et. al.*, 1998).

The species considered to have particular importance is the northern bottlenose whale given its high use of the deep canyon area on a year-round basis with the presence of half the population at any given time (Whitehead *et. al.*, 1998). In addition, research efforts in the area have primarily focused on this species. The CWS workshop (CWS, 1995) highlighted the importance of the northern bottlenose, serving as the primarily focus of the resulting discussion paper. Parks Canada has made a similar observation in selecting the Sable Gully/Sable area as a NACS. The *Environmental Assessment of Seismic Exploration on the Scotian Shelf* recognized the importance of the Sable Gully area for squid feeding whales, including both the sperm and northern bottlenose (LGL and Malme, 1998).

As squid (*Gonatus fabricii*) is suspected to be the primary food source for beaked whales in the Sable Gully area (Whitehead *et. al.*, 1998) it is also identified as a VEC.

Conservation target:

- To prevent the harmful impacts of human activities on cetacean populations of the Sable Gully and their habitats[1].

Fish Communities and Fisheries

The Sable Gully represents an area of faunal boundaries, producing habitat for a range of both shelf, slope, and deep water dwelling species found on the Scotian Shelf. Using data from 1970-93, the general conclusions from the Science Review (Zwanenburg, 1998) regarding finfish communities were:

> *the Gully and adjacent waters are areas of relatively high demersal finfish diversity relative to the eastern Scotian Shelf as a whole.*
>
> *Redfish, squid, cod, witch flounder, white hake, and longfin hake have high densities in the Sable Gully relative to the remainder of the eastern Scotian Shelf.*

The following additional observations from Zwanenburg *et. al.*, (1998) have been made regarding the Gully and its possible role for the eastern Scotian Shelf:

- Redfish dominate the finfish populations of the canyon and trough portions of the Sable Gully.
- Those species found in the Gully that have dynamics similar to those found on the eastern Scotian Shelf include redfish, squid, and witch flounder. Those species which have different dynamics than those on the eastern Scotian Shelf include American plaice, haddock, cod, silver hake, white hake and pollock.
- The summer trawl survey for the period (1970-1992) indicates that the Sable Gully appears to be the preferred area of distribution, relative to adjacent waters, for a number of species, based on Simon and Comeau (1994). These species include American Plaice, Atlantic Halibut, Atlantic Cod, Haddock, Herring (late 1980s and early 1990s), Longfin Hake, Monkfish, Pollock (mid to late 1980s), Redfish, Smooth Skate, White hake (especially 1982-92), Winter Skate and Witch Flounder.

[1] The Fisheries Act defines "habitat" as migration, spawning, nursery, rearing, and food supply areas upon which they depend directly or indirectly to carry on their life processes

- Based on egg and larvae historical, data twelve species were found with the most abundant being silver hake, pollock, American Plaice, and cod. From thirty-three species of fish in the larvae stage collected, the most abundant was silver hake. The abundance of silver hake eggs and larvae in the region suggest that the Sable Gully was an important spawning area for this species at the time these samples were collected (1978-92).

- There are numerous (>200) pelagic species occurring over the shelf slope and abyssal plain adjacent to the Sable Gully, however these species have broad geographic distribution and the area does not appear to be particularly important for shelf dwelling pelagic species.

Fisheries

The Sable Gully and surrounding waters have had a long history as an important fishing area. Many of the traditional fisheries in the area are under closure or have severe restrictions, however the area has been increasingly fished for both traditional and non-traditional species. The Socio-economic Profile (described Section 2.2) will provide additional analysis on past, present, and future activities in the area.

The following fisheries are considered active in the area:

- longline effort directed at Atlantic Halibut and white hake
- longline effort directed at swordfish, primarily in the canyon portion
- shrimp effort in the trough area
- squid effort in the trough area (>200 m)

Past or currently inactive fisheries identified for the Sable Gully area include:

- an active groundfish (cod and haddock) fishery including significant trawler effort.
- an active redfish fishery

Potential fisheries identified for the area include:

- expansion of existing fisheries, such as snow crab and shrimp
- new benthic fisheries, *e.g.* stone crab

Conservation target:

- ❖ To protect the habitat of both commercial and non-commercial fish species in the Sable Gully.

- ❖ To protect and maintain the population age structure within species and the balance between species in the Sable Gully.

4.0. Conservation Objective and Recommended Management Actions

4.1 Conservation Objective

Based on the Science Review and discussions to date the overall conservation objective for the Sable Gully is to:

"conserve and protect the natural biological diversity and integrity of the Sable Gully ecosystem to ensure its long-term health and sustainable use."

4.2 Goals

To meet this overall objective will require focusing upon and achieving a number of goals:

- Maintain the ecological integrity of the Sable Gully and ensuring that physical processes will not be altered;
- Establish biological diversity objectives for the Sable Gully, including at the species, habitat, community, and genetic levels. Canada, as a signatory to the *Convention on Biological Diversity*, has made a commitment at the international level to protecting and conserving biodiversity in the marine environment;
- Protect and conserve valued, 'keystone' , and sensitive species and communities, and their habitats, *i.e.* VEC's;
- Develop a better understanding of the Sable Gully ecosystem through research and monitoring of natural processes, and the effects of human activities;
- Plan for the 'multiple use' of the Sable Gully ecosystem, with activities in the area that do not conflict with the objective of the Conservation Strategy, *e.g.* protect ecosystem health; and,
- Provide a management framework that promotes and facilitates collaboration among agencies, users, and interests in the Sable Gully to help resolve any conflicts and to develop an open and inclusive dialogue.

4.3 Proposed Management Actions for the Sable Gully

The conservation of large, complex, dynamic, and little understood areas of the marine ecosystem presents a unique challenge. Based on discussions to date, participants remain divided as to the

important ecosystem components, due to the limits in the scientific knowledge of the area. Similarly, there are differing opinions as to the impacts of human activities on these components, and the required management actions to address such issues in the Sable Gully. It is clear that more analysis and discussion is required between and among DFO, other agencies, and the users and interests in the area to more accurately define and address the key issues of concern and agreed to management actions. The proposed management 'model' and actions proposed below have been developed taking this into consideration.

In Canada, there are a wide array of regulatory and planning 'tools' and processes available to the federal government when addressing particular conservation or environmental protection issues in the marine environment. For example: many of the issues related to oil and gas developments can be addressed through the environmental assessment processes under the Canadian Environmental Assessment Act (CEAA). Moreover, and the regulatory and advisory processes provided by agencies such as the Canada-Nova Scotia Offshore Petroleum Board have responsibilities to protect the marine environment from these activities. DFO manages commercial fisheries through species management plans, with the input of industry advisory committees.

Until recently, most of these tools and processes have been sectorally based, developed and used to address particular issues from defined perspectives. As the Conservation Strategy has a broad overall objective, the conservation and protection of an ecosystem, new approaches and philosophies towards the planning of human activities are required to provide both:

- the long-term conservation and protection of the Sable Gully ecosystem and its key components, and;

- a planning forum in which all agencies, users, and interested persons are able to contribute to the management decision-making on all activities in this ecosystem.

It is the view of DFO, that the *Oceans Act* provides the appropriate legislative basis through which to accomplish this dual objective.

4.3.1 The *Oceans Act*: Implementing the Conservation Strategy

The *Oceans Act* provides the framework and tools needed to implement the Conservation Strategy. Working within the intent of the Act by; promoting the understanding of the marine ecosystem to foster sustainable development, applying conservation based on the ecosystem approach, the wide application of the precautionary approach and by initiating integrated management of the area, the objective and goals of the Conservation Strategy can be met. The full application of the *Act* to meet the objective and goals of the Conservation Strategy requires careful consideration of the current level of knowledge of the Sable Gully ecosystem, and the spatial distribution of key ecological features, resources, and issues.

During the development of the Conservation Strategy, concerns were raised as to the current or potential impact of human activities on the Sable Gully ecosystem. At the same time, a number of

participants expressed the need to develop multiple use objectives for the Sable Gully area, recognizing that both current and future economic activities and opportunities can take place without being destructive to the ecosystem.

Based on comments on the October 1998 draft Strategy, a number of changes have been made to the original four recommendations. There are now three recommendations for the Department, that:

- DFO lead and facilitate an integrated management planning process for the broader Scotian Shelf ecosystem,
- as part of integrated management, DFO lead the development of a comprehensive plan for the selection and prioritization of MPAs on the Scotian Shelf
- concurrent with the planning activities, it is proposed that a 'core area' of the Sable Gully be identified as an Marine Protected Area 'Area of Interest' (AOI) and that DFO lead its development under the DFO Marine Protected Areas Program.

Recommendation: DFO lead and facilitate an integrated management planning process for the Eastern Scotian Shelf ecosystem

Throughout the development of the Conservation Strategy there have been numerous questions and concerns regarding the broader application and implication of the *Oceans Act* in the offshore. In particular, comments have been directed at:

- coordination among Government departments, particularly on issues related to conservation and environmental protection measures, providing a stable and predicable management framework;
- the relationship between existing environmental protection legislation and processes and the objectives and tools of the *Oceans Act;*
- the need for communication and collaboration among various interests and resources users;
- the need to equally assess both environmental and socio-economic objectives, and
- the need to identify ecologically important and sensitive areas which may require special protection

It is recommended that DFO address these broader needs through an integrated management effort, by initiating a planning process for the Eastern Scotian Shelf ecosystem.

Integrated Management and the *Oceans Act*

To manage the oceans successfully requires the integration of economic, social, and environmental objectives. It also means balancing protection and conservation with multiple use objectives. The *Oceans Act* (Section 31) calls upon the Minister to:

> *...to lead and facilitate the development and implementation of plans for the integrated management of all activities or measures in or affecting marine waters...*

In the process of developing and implementing these plans DFO is directed by the Act to collaborate with all federal and provincial agencies and the broader oceans community.

DFO is working on a draft policy for the application of integrated management in Canadian waters. However, the *Oceans Act* does provide the basic principles. As well, coastal zone management initiatives have developed the basis for applying this concept in Canada and many other jurisdictions throughout the world. The open ocean is a relatively new frontier in which to apply these concepts and the Scotian Shelf provides an opportunity through which to explore and implement this new approach in the offshore.

The term 'integration' involves developing working relationships and linkages between and among marine resource users, responsible government agencies and regulators, scientists, and the community at large.

Integrated management does not replace the existing resource or environmental management structure, but supplements these efforts by providing a forum and process in which to discuss broad issues, to share perspectives, and to provide recommendations for solutions. For example, oil and gas or fisheries activities in the area will still be managed by the same regulatory structures, but in consideration of a broader and more comprehensive plan.

Developing an integrated management plan for the area is a proactive step. This approach recognizes that economic, social and cultural perspectives and activities are part of an ecosystem, and are included in the equation with environmental interests.

Long term management plans and collaboration of all management structures, is the ultimate goal of integrated management. Integrated management will assist in setting priorities, identifying short and long term actions, and will help assess the implications on existing management structures. The aim is to create a climate conducive to cooperation rather than confrontation. For example, all sectors will benefit from a process which addressees economic development as part of a positive and knowledgeable process.

Eastern Scotian Shelf Integrated Management Pilot Project

To develop an understanding of the application of integrated management, a pilot project focused on the Eastern Scotian Shelf ecosystem (Lahave Basin to Laurentian Channel) is proposed.

Opportunities to expand into a larger area of Scotian Shelf may result from this initial study area and project.

Based on the discussions to date, the following activities have been suggested as part of a integrated management planning process: shipping activity, fishing, oil and gas exploration and production, ocean disposal, mining, and research activities. The integrated management planning process will need to address these issues in the context of their interaction with the ecosystem and with each other.

Integrated management activities have several distinct, but interlinked components. The planning process should:

- place the ecosystem health, function, and productivity first and this principle can not be compromised;
- assess the current management of the area and develop linkages and arrangements to ensure there are coordinated and effective actions by regulating agencies;
- work closely with established advisory and planning committees
- identify and define, as best as possible, conflicts between human use and the impacts on the health of the ecosystem and resources in the area;
- develop a planning framework which is inclusive of all interests and is continuous, intuitive, and adaptive;
- improve our current understanding of the ecosystem;
- assess the socio/economic values, including the development potential, economic activity, products and services;
- develop and implement a plan to meet objectives and goals

Other 'tools' available to DFO under the *Oceans Act* to assist in the implementation of integrated management plans include:

- Marine Protected Areas (MPAs)
- Marine environmental quality (MEQ) guidelines
- Establishment of advisory or management bodies

Possible next steps by DFO

The regulatory powers of other agencies and the contributions from users and interests in the area will also be a key part of developing the integrated management plan. As a first priority, DFO suggests establishing a *Eastern Scotian Shelf Integrated Management Team* to assist in initiating

and implementing this pilot project. A broad, cross-section of all relevant government agencies, resource users, and other interested parties would be invited to participate on this team, or if they choose they may be more loosely associated with the team but kept informed of activities, decisions and proposed actions upon which they can comment.

As well, DFO will investigate the use of Memorandums of Understanding (MOU) with other agencies, and the use of other agreements, as a important step in initiating this process.

Recommendation: As part of integrated management, DFO lead the development of a comprehensive plan for the selection and prioritization of MPAs on the Scotian Shelf

A key tool for achieving integrated management objectives under the *Oceans Act* is through the designation of Marine Protected Areas (MPAs). Similarly, as important component of the recommended *Eastern Scotian Shelf Integrated Management Pilot Project*, it is recommended that DFO lead the development a comprehensive plan for the selection and prioritization of MPAs in the Scotian Shelf offshore. DFO should initiate this process in the winter of 1999.

During the development of the Conservation Strategy there was unanimous support from a variety of agencies, industry organizations, conservation groups, and researchers for a more 'systematic' approach to MPA selection, considering both a broader ecosystem view, existing planning and regulatory frameworks, and the direct involvement of resource users and other interests. Moreover, the *Oceans Act* calls on the Minister for this type of approach in Section 35 (2):

> *(2) For the purposes of integrated management plans referred to in sections 31 and 32, the Minister will lead and coordinate the development and implementation of a national system of marine protected areas on behalf of the Government of Canada.*

In the Regional MPA Framework (DFO, 1998c), DFO has committed to identifying MPAs using a system planning approach, with an ecological overview of marine regions as a foundation, and also involving a wide range of agencies, marine users, and interested parties as part of integrated management activities. The ecological overview will be focused on characterizing the marine ecosystem and identifying important resources and habitats, providing an important information base for future planning processes, including defining a 'system of MPAs'.

Additional 'Areas of Interest' (AOI) brought forth by the Department in the MPA Program in the offshore would be identified in a planning exercise that provides an open exchange of views and information. For example, the proposed *Eastern Scotian Shelf Integrated Management Team*, described above, would be key participants in this process. Issues such as the use of selection

criteria and the goals for MPAs on the broader Scotian Shelf would be an important part of this exercise. The results of this effort would also benefit the investigation of the Gully as an AOI (see recommendation), helping to address more definitively, the role of the Sable Gully on the Scotian Shelf as a whole.

<u>Recommendation</u>: Concurrent with integrated management planning activities, it is proposed that a 'core area' of the Sable Gully be identified as an Marine Protected Area (MPA) Area of Interest (AOI), and that DFO lead its development under the DFO Marine Protected Areas Program.

Under the *Oceans Act*, the Minister of Fisheries and Oceans may designate Marine Protected Areas (MPAs) in areas of the marine environment which require special protection (Section 35).

Based on the findings of the Science Review, and the previous conclusions of other departments (Environment Canada and Parks Canada), DFO recognizes the special ecological characteristics and importance of the Sable Gully (described in further detail below). In particular, the 'core area' of the Sable Gully centered around the deep canyon portion (approx. >300 m), warrants further investigation as an MPA under the *Oceans Act*. As part of integrated management planning, DFO will at the same time initiate the MPA process, as outlined in the National and Maritimes Region MPA Program working documents (DFO, 1998b and c), for the 'core area' of the Sable Gully. Lessons of the past have shown that there is the human capacity for irreversible damage of the marine ecosystem. The intent of pursuing an MPA for the canyon portion is to provide long term protection for a key area in the Sable Gully ecosystem, encompassing the distribution and habitats of many of the important and valued biological communities. The use of protected areas in the marine environment has been accepted around the world, providing a more precautionary and proactive means of protecting important and vulnerable areas of the marine ecosystem, prior to serious environmental degradation.

MPAs will provide a significant contribution towards meeting Canada's commitment to protecting and conserving marine biodiversity, as outlined in the recent Government of Canada (1997) publication "Implementing the Canadian Biodiversity Strategy - Protected Areas". This document directs the federal government to meet a number of strategic actions, including *Strategic Direction* 1.55:

> *Enhance efforts to conserve aquatic biodiversity by protecting species and ecosystems at risk, endemic species, vulnerable spawning areas and unique/representative ecosystems.*

MPAs represent one of the strongest marine conservation and protection measures available to DFO, providing an opportunity in which to test and explore 'ecologically based' management approaches. The current management approaches as such as the existing DFO Whale Sanctuary

(described in Section 2.0) and the powers of other regulatory agencies in the area may be insufficient, on their own, to provide the broad level of protection required in the long term. Nevertheless, these existing measures remain an important part of protecting this ecosystem and MPA designation could provide a means of combining and coordinating many of these existing approaches and powers under a single management plan for the area.

Since the *Oceans Act* was enacted, the public have been informed of the need to identify potential MPAs early on, advocating a 'learn by doing' approach to developing the MPA Program. As the first announced Area of Interest (AOI) in Maritimes Region, the Sable Gully will provide a chance to bring together the key users and interests early on to help understand and refine the process proposed to establish and manage MPAs in the Maritimes. The identification of this area as a AOI by the Department in advance of a completed MPA system plan for the Scotian Shelf (see Recommendation) is a unique situation, in order to initiate the process, and to start 'learning by doing'.

The Sable Gully 'core area' and MPAs under the *Oceans Act*

The *Oceans Act* defines specific reasons in which MPAs can be established (Section 35. 1). These reasons for investigating an MPA in the Sable Gully, together with the several of the observations from the Science Review and related documents, include:

(a) the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats;

- Available evidence suggests that the Sable Gully has a high diversity and concentration of cetaceans in comparison to adjacent shelf waters, where it has been suggested that this area represents one of the most important habitats on the Scotian Shelf.

- The Sable Gully has a high diversity of finfish, suggesting it is an important habitat for many commercial, *e.g.* redfish or silver hake, and non-commercial species on the eastern Scotian Shelf.

(b) the conservation and protection of endangered or threatened marine species, and their habitats;

- The Sable Gully serves as the critical habitat for the northern bottlenose whale on the Scotian Shelf, a species listed as "vulnerable" by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC).

(c) the conservation and protection of unique habitats;

- The Sable Gully is 'unique' among canyons on the eastern Canadian margin because of its combined large size, great depth, and steep slopes, with its extension far onto the continental shelf, *i.e.* connecting the continental slope to the inner shelf.

(d) the conservation and protection of marine areas of high biodiversity or biological productivity

- DFO does not have a standard measure or 'index' of biodiversity for use in the marine environment in which to evaluate the Sable Gully. Nevertheless, as a complex oceanographic feature which contains a concentrated mix and patchwork of physical settings or habitat types the area is suspected to possess a diversity of both benthic and pelagic communities. This combined with evidence from the Science Review suggesting the area supports a relatively high diversity of both cetaceans and finfish, indicate the Sable Gully has a 'high biodiversity per unit area' on the Scotian Shelf. These indicators may also provide evidence of enhanced biological productivity in the area, *e.g.* high biomass of benthic feeding whales, however addition research is required.

Defining the MPA Area of Interest (AOI) - the suggested 'core area' of the Sable Gully

In developing the Conservation Strategy there are several definitions and interpretations of what constitutes the Sable Gully ecosystem and its boundaries. This was the subject of considerable debate during the Science Review which, in the end, did not address this question directly. The study area chosen should attempt to consider an ecosystem approach, recognizing the inter-linkages between physical processes (*e.g.* water currents), biological processes (*e.g.* productivity), and biological communities (*e.g.* cetaceans), as described in Section 3.0. The available information does not permit a distinct or clear 'boundary' to be defined, if indeed this can be done in a marine ecosystem. However, at this conceptual stage, the Sable Gully "ecosystem" can best be represented by the 200 meter contour, with an undefined buffer, decreasing in importance, as you move away from this area.

For the purposes future discussions on the Sable Gully as a MPA Area of Interest (AOI), a future 'study area' can be proposed. The area proposed as the AOI is provided in Figure 2. Based on a more in-depth analysis of ecological boundaries together with broader discussions on human impacts, as described below, the boundary of the AOI would be expected to change. A recommendation to the Minister of Fisheries and Oceans Canada on its final boundary and the legal designation of the Sable Gully as an MPA under the *Oceans Act*, would follow the steps outline in the MPA process.

The core area chosen will have a range of 'reasons' for designation (as described above), and is not focused on the conservation and protection needs of one particular species. In light of the

Figure 2: Sable Gully Area of Interest (AOI) *approximate boundary for illustration purposes only

information available, the area suggested below attempts to include many of those features and attributes of the Sable Gully that make the area ecologically significant:

- The steep sides and great depths of the canyon are suspected to support a high diversity of pelagic and benthic habitats and organisms. A variety of depth gradients (including areas from approx. 50 to over 2000 m) are included in the core area to account for a diversity of habitats and faunal boundaries in the area.

- Cetaceans and their distribution is perhaps the most well known of all ecosystem components in the Sable Gully. The core area chosen attempts to cover the preferred habitat areas of most of the important species in the canyon as described in the Science Review, and in particular the vulnerable northern bottlenose whale (represented by the Whale Sanctuary).

- The key physical processes (sediment transport, localize circulation patterns, internal waves) within the canyon, *e.g.* feeder canyons on eastern Sable Bank.

Conservation and Protection Issues

The previous efforts at identifying or addressing conservation and protection issues specific to the Sable Gully, as described in Section 2.0, *e.g.* CWS Discussion Paper, together with preliminary discussions held to date, can provide insight into the activities of concern in and around the core area thus far. The following issues are suggested to be included as part of upcoming assessments and discussions:

Contamination of ecosystem components

- oil and gas exploration and production within the core area, including the current Primrose lease (CWS, 1995; Default and Whitehead, 1995; and Joint Review Panel, 1997)
- oil and gas exploration and production within the broader Sable Gully ecosystem (current and future lease areas) and the impacts on the core area (CWS, 1995 and Joint Review Panel, 1997)
- ocean dumping/disposal
- vessel discharges
- atmospheric input

Direct interactions with cetaceans

- collisions with ships (DFO Whale Sanctuary designation, SOEI Code of Practice, CWS, 1995, and Whitehead *et. al.*, 1995)

- possible fishing gear entanglements (CWS, 1995; Default and Whitehead, 1994; and Whitehead, *et. al.* 1996)
- scientific research
- harassment and hunting (CWS, 1995)
- tourism
- floating debris (CWS, 1995 and Faucher and Whitehead, 1995)
- depletion of food sources

Noise impacts on cetaceans

- seismic exploration (LGL and Malme, 1998 and Whitehead *et. al.*, 1994)
- oil and gas construction and production activities in and around the core area
- shipping activity (Whitehead *et. al.*, 1994)

Benthic disturbance

- future marine mining activities
- fishing gear interactions
- alterations in sedimentation loads and movements from oil and gas activities
- ocean dumping/disposal

Impacts on fish communities

- harmful disruption of the population age structure within species and the natural balance between species

Issues in the broader Sable Gully ecosystem

Impacts on the broader Sable Gully ecosystem, as described above, and the activities in this area that could negatively impact the 'core area', will need to be evaluated as part of the next steps in the MPA process. In addition, these issues would be addressed within the recommended *Eastern Scotian Shelf Integrated Management Pilot Project*. Existing regulatory processes and the use of other new tools available under the *Oceans Act, e.g.* Marine Environmental Quality (MEQ) guidelines, could be used to address the issues and concerns within this broader area.

The Sable Gully Area of Interest (AOI) - The Next Steps

DFO is committed to designate individual MPAs under the *Oceans Act* within a clearly defined framework and process. The *Maritimes Region Marine Protected Areas Program: Program Implementation Working Document* outlines a draft version of this framework (DFO, 1998).

To assist with further discussions on this recommendation, the six general steps in the MPA designation process are described below:

Step 1: Identification of Areas of Interest (AOIs)
Step 2: Initial Screening of AOIs
Step 3: AOI Evaluation and Recommendation
Step 4: Development of a Management Plan
Step 5: Designation of MPA
Step 6: Management of MPA

Identification and initial screening of the 'core area' as an AOI will complete Steps 1 and 2. To develop an MPA to designation under the Act (Step 5) requires sufficient time to conduct assessments on the impacts of human activities on vulnerable ecosystem components and to allow for the full participation of all users and interests in the area. Greater detail on these steps, as they may relate to the Gully, are provided in Appendix C.

Establish Sable Gully MPA Team

DFO (Oceans Act Coordination Office) proposes to lead the development of the Sable Gully AOI, serving as the site 'sponsor', as identified in the Regional MPA Framework, beginning in the winter of 1999. To assist the Department, a *Sable Gully MPA Team* will be established, as a first priority, to work with DFO on the next steps in the process. The *Sable Gully MPA Team* will be composed of representatives from the various agencies and interests in the area, including key regulatory agencies, the fishing industry, oil and gas industry, shipping interests, researchers, and environmental organizations. The Sable Gully MPA Team would work closely with the *Eastern Scotian Shelf Integrated Management Team.*

The *Gully MPA Team* will assist the Department with a number of assessments and important decisions, including:

- addressing key information gaps and science needs
- assessing human activities and their effect of the Gully ecosystem
- further refining the objectives of MPA designation in the area
- develop specific management and regulatory actions to achieve the conservation objectives
- refining the proposed boundary of an MPA

In addition, further assessments and the development of an management plan for the area would require the involvement of two existing committees, established by the Department:

- DFO Internal MPA Working Group
- Federal/Provincial Interdepartmental MPA Committee

Interim Protection

DFO will seek the collaboration of other government and regulatory agencies in the development the 'core area' AOI for the Sable Gully. Any further actions with regard to the implementation of the Conservation Strategy will require co-operative and collaborative efforts on the part of several federal and provincial agencies, including but not restricted to:

Fisheries and Oceans Canada
Canada-Nova Scotia Offshore Petroleum Board
Environment Canada
Department of National Defence
Natural Resources Canada
Department of Canadian Heritage
Province of Nova Scotia (Department of the Environment, Department of Natural Resources, Petroleum Directorate, Nova Scotia Museum, Department of Fisheries and Aquaculture)

Interim protection measures and restrictions on new activities in and around the core area (MPA study area defined earlier) should be put in place by these agencies under their respective regulatory frameworks and powers, that reflect the overall objective and recommendations of the Conservation Strategy. These interim measures can be re-evaluated once the next steps in the MPA process are completed. DFO will contact these agencies to assist in developing the appropriate interim measures.

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Appendix A - DFO Whale Sanctuary

Appendix B

PART II : THE *OCEANS ACT* - OCEANS MANAGEMENT STRATEGY

Part does not apply to inland waters

28. For greater certainty, this Part does not apply in respect of rivers and lakes.

Development and implementation of strategy

29. The Minister, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, shall lead and facilitate the development and implementation of a national strategy for the management of estuarine, coastal and marine ecosystems in waters that form part of Canada or in which Canada has sovereign rights under international law.

Principles of strategy

30. The national strategy will be based on the principles of

(*a*) sustainable development, that is, development that meets the needs of the present without compromising the ability of future generations to meet their own needs;

(*b*) the integrated management of activities in estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law; and

(*c*) the precautionary approach, that is, erring on the side of caution.

Integrated management plans

31. The Minister, in collaboration with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, shall lead and facilitate the development and implementation of plans for the integrated management of all activities or measures in or affecting estuaries, coastal waters and marine waters that form part of Canada or in which Canada has sovereign rights under international law.

Implementation of integrated management plans

32. For the purpose of the implementation of integrated management plans, the Minister

(*a*) shall develop and implement policies and programs with respect to matters assigned by law to the Minister;

(*b*) shall coordinate with other ministers, boards and agencies of the Government of Canada the implementation of policies and programs of the Government with respect to all activities or measures in or affecting coastal waters and marine waters;

(*c*) may, on his or her own or jointly with another person or body or with another minister, board or agency of the Government of Canada, and taking into consideration the views of other ministers, boards and agencies of the Government of Canada, provincial and territorial governments and affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements,

(i) establish advisory or management bodies and appoint or designate, as appropriate, members of those bodies, and

(ii) recognize established advisory or management bodies; and

(*d*) may, in consultation with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements, establish marine environmental quality guidelines, objectives and criteria respecting estuaries, coastal waters and marine waters.

Cooperation and agreements

33. (1) In exercising the powers and performing the duties and functions assigned to the Minister by this Act, the Minister

(*a*) shall cooperate with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements;

(*b*) may enter into agreements with any person or body or with another minister, board or agency of the Government of Canada;

(*c*) shall gather, compile, analyse, coordinate and disseminate information;

(*d*) may make grants and contributions on terms and conditions approved by the Treasury Board; and

(*e*) may make recoverable expenditures on behalf of and at the request of any other minister, board or agency of the Government of Canada or of a province or any person or body.

Consultation

(2) In exercising the powers and performing the duties and functions mentioned in this Part, the Minister may consult with other ministers, boards and agencies of the Government of Canada, with provincial and territorial governments and with affected aboriginal organizations, coastal communities and other persons and bodies, including those bodies established under land claims agreements.

Logistics support, etc.

34. The Minister may coordinate logistics support and provide related assistance for the purposes of advancing scientific knowledge of estuarine, coastal and marine ecosystems.

Marine protected areas

35. (1) A marine protected area is an area of the sea that forms part of the internal waters of Canada, the territorial sea of Canada or the exclusive economic zone of Canada and has been designated under this section for special protection for one or more of the following reasons:

(*a*) the conservation and protection of commercial and non-commercial fishery resources, including marine mammals, and their habitats;

(*b*) the conservation and protection of endangered or threatened marine species, and their habitats;

(*c*) the conservation and protection of unique habitats;

(*d*) the conservation and protection of marine areas of high biodiversity or biological productivity; and

(*e*) the conservation and protection of any other marine resource or habitat as is necessary to fulfill the mandate of the Minister.

Marine protected areas

(2) For the purposes of integrated management plans referred to in sections 31 and 32, the Minister will lead and coordinate the development and implementation of a national system of marine protected areas on behalf of the Government of Canada.

Regulations

(3) The Governor in Council, on the recommendation of the Minister, may make regulations

(*a*) designating marine protected areas; and

(*b*) prescribing measures that may include but not be limited to

(i) the zoning of marine protected areas,

(ii) the prohibition of classes of activities within marine protected areas, and

(iii) any other matter consistent with the purpose of the designation.

Interim marine protected areas in emergency situations

36. (1) The Governor in Council, on the recommendation of the Minister, may make orders exercising any power under section 35 on an emergency basis, where the Minister is of the opinion that a marine resource or habitat is or is likely to be at risk to the extent that such orders are not inconsistent with a land claims agreement that has been given effect and has been ratified or approved by an Act of Parliament.

Exemption from *Statutory Instruments Act*

(2) An order made under this section is exempt from the application of sections 3, 5 and 11 of the *Statutory Instruments Act*.

Temporary effect

(3) An order made under this section that is not repealed ceases to have effect 90 days after it is made.

Offence and punishment

37. Every person who contravenes a regulation made under paragraph 35(3)(*b*) or an order made under subsection 36(1) in the exercise of a power under that paragraph

(*a*) is guilty of an offence punishable on summary conviction and liable to a fine not exceeding $100,000; or

(*b*) is guilty of an indictable offence and liable to a fine not exceeding $500,000.

Contravention of unpublished order

38. No person may be convicted of an offence consisting of a contravention of an order made under subsection 36(1) in the exercise of a power under paragraph 35(3)(*b*) that, at the time of the alleged contravention, had not been published in the *Canada Gazette* in both official languages unless it is proved that reasonable steps had been taken before that time to bring the purport of the order to the attention of those persons likely to be affected by it.

Enforcement officers

39. (1) The Minister may designate any person or class of persons to act as enforcement officers for the purposes of this Act and the regulations.

Designation of provincial government employees

(2) The Minister may not designate any person or class of persons employed by the government of a province unless that government agrees.

Certificate of designation

(3) Every enforcement officer must be provided with a certificate of designation as an enforcement officer in a form approved by the Minister and, on entering any place under this Act, the officer shall, if so requested, show the certificate to the occupant or person in charge of the place.

Powers of peace officers

(4) For the purposes of this Act and the regulations, enforcement officers have all the powers of a peace officer, but the Minister may specify limits on those powers when designating any person or class of persons.

Exemptions for law enforcement activities

(5) For the purpose of investigations and other law enforcement activities under this Act, the Minister may, on any terms and conditions the Minister considers necessary, exempt enforcement officers who are carrying out duties or functions under this Act, and persons acting under their direction and control, from the application of any provision of this Act or the regulations.

Obstruction

(6) When an enforcement officer is carrying out duties or functions under this Act or the regulations, no person shall

(*a*) knowingly make any false or misleading statement either orally or in writing to the enforcement officer; or

(*b*) otherwise willfully obstruct the enforcement officer.

Inspections

39.1 (1) For the purpose of ensuring compliance with this Act and the regulations, an enforcement officer may, subject to subsection (3), at any reasonable time enter and inspect any place in which the enforcement officer believes, on reasonable grounds, there is any thing to which this Act or the regulations apply or any document relating to the administration of this Act or the regulations, and the enforcement officer may

(*a*) open or cause to be opened any container that the enforcement officer believes, on reasonable grounds, contains any such thing or document;

(*b*) inspect the thing and take samples free of charge;

(*c*) require any person to produce the document for inspection or copying, in whole or in part; and

(*d*) seize any thing by means of or in relation to which the enforcement officer believes, on reasonable grounds, this Act or the regulations have been contravened or that the enforcement officer believes, on reasonable grounds, will provide evidence of a contravention.

Conveyance

(2) For the purposes of carrying out the inspection, the enforcement officer may stop a conveyance or direct that it be moved to a place where the inspection can be carried out.

Dwelling-place

(3) The enforcement officer may not enter a dwelling-place except with the consent of the occupant or person in charge of the dwelling-place or under the authority of a warrant.

Warrant

(4) Where on *ex parte* application a justice, as defined in section 2 of the *Criminal Code*, is satisfied by information on oath that

(*a*) the conditions for entry described in subsection (1) exist in relation to a dwelling-place,

(*b*) entry to the dwelling-place is necessary in relation to the administration of this Act or the regulations, and

(*c*) entry to the dwelling-place has been refused or there are reasonable grounds for believing that entry will be refused, the justice may issue a warrant authorizing the enforcement officer to enter the dwelling-place subject to any conditions that may be specified in the warrant.

Search and seizure without warrant

39.2 For the purpose of ensuring compliance with this Act and the regulations, an enforcement officer may exercise the powers of search and seizure provided in section 487 of the *Criminal Code* without a warrant, if the conditions for obtaining a warrant exist but by reason of exigent circumstances it would not be feasible to obtain the warrant.

Custody of things seized

39.3 (1) Subject to subsections (2) and (3), where an enforcement officer seizes a thing under this Act or under a warrant issued under the *Criminal Code*,

(*a*) sections 489.1 and 490 of the *Criminal Code* apply; and

(*b*) the enforcement officer, or any person that the officer may designate, shall retain custody of the thing, subject to any order made under section 490 of the *Criminal Code*.

Forfeiture where ownership not ascertainable

(2) Where the lawful ownership of or entitlement to the seized thing cannot be ascertained within thirty days after its seizure, the thing or any proceeds of its disposition are forfeited to

(*a*) Her Majesty in right of Canada, if the thing was seized by an enforcement officer employed in the public service of Canada; or

(*b*) Her Majesty in right of a province, if the thing was seized by an enforcement officer employed by the government of that province.

Perishable things

(3) Where the seized thing is perishable, the enforcement officer may dispose of it or destroy it, and any proceeds of its disposition must be

(*a*) paid to the lawful owner or person lawfully entitled to possession of the thing, unless proceedings under this Act are commenced within ninety days after its seizure; or

(*b*) retained by the enforcement officer pending the outcome of the proceedings.

Abandonment

(4) The owner of the seized thing may abandon it to Her Majesty in right of Canada or a province.

Disposition by Minister

39.4 Any thing that has been forfeited or abandoned under this Act must be dealt with and disposed of as the Minister may direct.

Liability for costs

39.5 The lawful owner and any person lawfully entitled to possession of any thing seized, abandoned or forfeited under this Act are jointly and severally liable for all the costs of inspection, seizure, abandonment, forfeiture or disposition incurred by Her Majesty in right of Canada in excess of any proceeds of disposition of the thing that have been forfeited to Her Majesty under this Act.

Contravention of Act or regulations

39.6 (1) Every person who contravenes subsection 39(6) or any regulation made under section 52.1

(*a*) is guilty of an offence punishable on summary conviction and is liable to a fine not exceeding $100,000; or

(*b*) is guilty of an indictable offence and is liable to a fine not exceeding $500,000.

Subsequent offence

(2) Where a person is convicted of an offence under this Act a second or subsequent time, the amount of the fine for the subsequent offence may, notwithstanding subsection (1), be double the amount set out in that subsection.

Continuing offence

(3) A person who commits or continues an offence on more than one day is liable to be convicted for a separate offence for each day on which the offence is committed or continued.

Fines cumulative

(4) A fine imposed for an offence involving more than one animal, plant or other organism may be calculated in respect of each one as though it had been the subject of a separate information and the fine then imposed is the total of that calculation.

Additional fine

(5) Where a person has been convicted of an offence and the court is satisfied that monetary benefits accrued to the person as a result of the commission of the offence,

(*a*) the court may order the person to pay an additional fine in an amount equal to the court's estimation of the amount of the monetary benefits; and

(*b*) the additional fine may exceed the maximum amount of any fine that may otherwise be imposed under this Act

Forfeiture

39.7 (1) Where a person is convicted of an offence, the convicting court may, in addition to any punishment imposed, order that any seized thing by means of or in relation to which the offence was committed, or any proceeds of its disposition, be forfeited to Her Majesty in right of Canada.

Return where no forfeiture ordered

(2) Where the convicting court does not order the forfeiture, the seized thing, or the proceeds of its disposition, must be returned to its lawful owner or the person lawfully entitled to it.

Retention or sale

39.8 Where a fine is imposed on a person convicted of an offence, any seized thing, or any proceeds of its disposition, may be retained until the fine is paid, or the thing may be sold in satisfaction of the fine and the proceeds applied, in whole or in part, in payment of the fine.

Orders of court

39.9 Where a person is convicted of an offence, the court may, in addition to any punishment imposed and having regard to the nature of the offence and the circumstances surrounding its commission, make an order containing one or more of the following prohibitions, directions or requirements:

(*a*) prohibiting the person from doing any act or engaging in any activity that could, in the opinion of the court, result in the continuation or repetition of the offence;

(*b*) directing the person to take any action that the court considers appropriate to remedy or avoid any harm to estuarine, coastal or ocean waters, or their resources that resulted or may result from the commission of the offence;

(*c*) directing the person to publish, in any manner that the court considers appropriate, the facts relating to the commission of the offence;

(*d*) directing the person to pay the Minister or the government of a province compensation, in whole or in part, for the cost of any remedial or preventive action taken by or on behalf of the Minister or that government as a result of the commission of the offence;

(*e*) directing the person to perform community service in accordance with any reasonable conditions that may be specified in the order;

(*f*) directing the person to submit to the Minister, on application to the court by the Minister within three years after the conviction, any information respecting the activities of the person that the court considers appropriate in the circumstances;

(g) requiring the person to comply with any other conditions that the court considers appropriate for securing the person's good conduct and for preventing the person from repeating the offence or committing other offences; and

(*b*) directing the person to post a bond or pay into court an amount of money that the court considers appropriate for the purpose of ensuring compliance with any prohibition, direction or requirement under this section.

Suspended sentence

39.10 (1) Where a person is convicted of an offence and the court suspends the passing of sentence pursuant to the *Criminal Code*, the court may, in addition to any probation order made on suspending the passing of that sentence, make an order containing one or more of the prohibitions, directions or requirements mentioned in section 39.9.

Imposition of sentence

(2) Where the person does not comply with the order or is convicted of another offence, within three years after the order was made, the court may, on the application of the prosecution, impose any sentence that could have been imposed if the passing of sentence had not been suspended.

Limitation period

39.11 (1) Proceedings by way of summary conviction in respect of an offence may be commenced at any time within, but not later than, two years after the day on which the subject-matter of the proceedings became known to the Minister

Minister's certificate

(2) A document appearing to have been issued by the Minister, certifying the day on which the subject-matter of any proceedings became known to the Minister, is admissible in evidence without proof of the signature or official character of the person appearing to have signed the document and is proof of the matter asserted in it.

Procedure

39.12 (1) In addition to the procedures set out in the *Criminal Code* for commencing a proceeding, proceedings in respect of any offence prescribed by the regulations may be commenced by an enforcement officer

(*a*) completing a ticket that consists of a summons portion and an information portion;

(*b*) delivering the summons portion to the accused or mailing it to the accused at the accused's latest known address; and

(*c*) filing the information portion with a court of competent jurisdiction before the summons portion has been delivered or mailed or as soon as is practicable afterward.

Content of ticket

(2) The summons and information portions of the ticket must

(*a*) set out a description of the offence and the time and place of its alleged commission;

(*b*) include a statement, signed by the enforcement officer who completes the ticket, that the officer has reasonable grounds to believe that the accused committed the offence;

(*c*) set out the amount of the fine prescribed by the regulations for the offence and the manner in which and period within which it may be paid;

(*d*) include a statement that if the accused pays the fine within the period set out in the ticket, a conviction will be entered and recorded against the accused; and

(*e*) include a statement that if the accused wishes to plead not guilty or for any other reason fails to pay the fine within the period set out in the ticket, the accused must appear in the court on the day and at the time set out in the ticket.

Notice of forfeiture

(3) Where a thing is seized under this Act and proceedings relating to it are commenced by way of the ticketing procedure, the enforcement officer who completes the ticket shall give written notice to the accused that, if the accused pays the fine prescribed by the regulations within the period set out in the ticket, the thing, or any proceeds of its disposition, will be immediately forfeited to Her Majesty.

Consequences of payment

(4) Where an accused to whom the summons portion of a ticket is delivered or mailed pays the prescribed fine within the period set out in the ticket,

(*a*) the payment constitutes a plea of guilty to the offence and a conviction must be entered against the accused and no further action may be taken against the accused in respect of that offence; and

(*b*) notwithstanding section 39.3, any thing seized from the accused under this Act that relates to the offence, or any proceeds of its disposition, are forfeited to

(i) Her Majesty in right of Canada, if the thing was seized by an enforcement officer employed in the public service of Canada, or

(ii) Her Majesty in right of a province, if the thing was seized by an enforcement officer employed by the government of that province.

Regulations

(5) The Governor in Council may make regulations prescribing

(*a*) offences in respect of which this section applies and the manner in which the offences are to be described in tickets, and

(*b*) the amount of the fine for a prescribed offence, but the amount may not exceed $2,000.

APPENDIX C -
Marine Protected Area (MPA) Process in the Sable Gully

The following provides additional details on the Sable Gully AOI Recommendation, as described in Section 4.3.2.

Step 3 - AOI Evaluation and Recommendation

The Science Review, socio-economic profile, related studies, and discussions to date provide a considerable amount of information on which to proceed through these steps. Building upon these efforts to date, Step 3 would involve:

- reviewing the socio-economic activities and their possible interactions with the 'core area'
- defining the specific goals of MPA designation
- assess the management and regulatory needs
- prioritize the research needs for the area, many of which were identified in information gaps (Keizer, 1998)
- refine the boundaries of the AOI

These assessments would require the active involvement of the proposed *Sable Gully MPA Team.*

The *Oceans Act* and MPA Program does not name specific activities which will be excluded from every MPA designated under the Act. Given the variety of objectives for MPAs in Canada, the level of protection will vary within each protected area. It is premature at this time to identify which activities would ultimately be regulated under the *Oceans Act* or affected by a MPA designation in the Sable Gully.

Discussions on restrictions on human activities within and around the AOI will be based upon a more in-depth analysis and assessment of the interactions (linkages and pathways) between the valued ecosystem components and the current and future uses of the Sable Gully ecosystem. Each activity in the area will interact or effect these valued ecosystem components differently. Nevertheless, there are implications for MPA designation on future resource use (both renewable - fisheries and non renewable - oil and gas/marine mining) and other activities (shipping/tourism) in the area. Proceeding through the consecutive steps of the MPA process provides the information base and forum in which to determine the interactions and compatibility of various activities with the conservation goals for the area. Those activities which could lead to the irreversible alteration, deterioration, or degradation of the ecosystem and its components will be the most restricted within a future MPA for the area. Interim measures can be put in place as a means of addressing immediate concerns.

Step 4 - Developing the Area Management Plan

An Area Management Plan (Step 4) would be developed which will clearly define the specific regulatory actions and management strategies required to meet the conservation and protection goals that are identified. MPAs are beyond simple 'no take' or 'no activity' areas. Area Management Plans for MPAs are flexible under the *Oceans Act*, and may include a range of management measures such as:

- prohibitions of classes of activities
- zoning
- Marine Environmental Quality (MEQ) standards
- volunteer measures
- monitoring and research
- use of other legislation, *e.g.* Fisheries Act, and other regulatory agencies

Step 5 - Designation of MPA

Following the development of the Area Management Plan, including the identification of final boundaries and the prohibitions on particular activities, MPAs are designated by the Minister of Fisheries and Oceans under the *Oceans Act* through regulations created under Section 35.